

THE MOTOR AGE

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THE FIRST AMERICAN MOTOR RACE

New York, April 15.—America's first automobile road race was in every particular successfully run over a fifty-mile course on the famous Merrick Road on Long Island yesterday morning.

A. L. Riker, mounted on the five horsepower electric racing wagon, which was specially built to carry him in the Bennett International Cup race in France on June 14, won by a quarter of an hour in 2:03:30.

S. T. Davis, Jr.'s, four and one half horsepower steam Locomobile, which made the fastest time to the turn at twenty-five miles, was second in 2:18:27. Alexander Fischer, by masterly handling of his five-horsepower gaso-

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line runabout, built by the Automobile Co. of America, landed himself in third place in 2:30:01.

American road competition records were established by Riker and Davis at fifty and twenty-five miles respectively.

There were fifteen entries and nine starters—one electric, three steam and five gasoline. Eight rounded the turn at twenty-five miles and seven reached the finish at fifty miles.

C. H. Tangaman, of Brooklyn, mounted on an imported DeDion racing tricycle, went over the course as a free lance starting with the first auto off. He covered the twenty-five miles in 52:48 and the fifty miles in 1:57:48.

The course was over the Merrick Road, Long Island, twenty-five miles straightaway, starting from the junction of Springfield Avenue and the Merrick Road at Springfield to the corner of Deer Park Avenue and Main Street, Babylon, and return, fifty miles in all, accurately surveyed.

The first prize was a silver cup given by Léonce Blanchet, one of the founders of the Automobile Club of France, who rode in the race as the guest of Albert C. Bostwick. The Automobile Club of America also gave diplomas to first, second and third.

The officials were: Referee and starter, Whitney Lyon; timer at finish, B. E. Macy; timers at railroad crossing, Homer W. Hedge and E. C. Chamberlin; timer at turn, C. S. Wells; judge at turn, John C. Wetmore, of Motor Age.

The race was for automobiles driven by members of the Automobile Club carrying at least two persons, motorcycles barred. Start to be thirty seconds apart. Allowance to be made for delays at railroad crossings. Rules of Automobile Club of America to govern.

The following tabulated report gives all the statistical details of what will prove an historic contest:

Driver and Guest	Vehicle	Horsepower	At the start		At 25 miles		At the finish		Time of last 25 miles		
			Position	Time	Order in elapsed time	Elapsed time	Position	Time			
A. L. Riker and A. H. Whitney.....	Riker Electric.....	5	1	10:24:00	2	11:24:36	1:00:36	1	12:27:30	2:03:30	1:02:54
S. T. Davis, Jr., and Joe McDuffee.....	Locomobile Steam. Auto. Co. of Am.	4	9	10:28:00	1	11:26:13	58:13	2	12:46:27	2:18:27	1:20:14
A. Fischer and mechanic.....	Gasoline	5	4	10:25:30	4	11:32:12	1:06:42	3	12:55:31	2:30:01	1:23:19
David W. Bishop, Jr., and mechanic.....	Winton Gasoline .	6	3	10:25:00	5	11:38:06	1:13:08	4	1:03:08	2:38:08	1:25:00
Albert C. Bostwick and Léonce Blanchet.....	" "	6	2	10:24:30	6	11:41:33	1:17:03	5	1:11:12	2:46:42	1:29:39
G. F. Chamberlin and mechanic.....	" "	6	7	10:27:00	7	11:45:58	1:18:58	6	1:15:44	2:48:44	1:29:46
†C. J. Field and Kenneth A. Skinner.....	DeDion Gasoline..	3	6	10:26:30	8	11:50:28	1:28:58	7	1:39:30*	3:18:00*	1:49:02*
D. Hennen Morris and R. H. Abbott.....	Locomobile Steam	4	8	10:27:30	3	11:29:13	1:01:43				
†William H. Hall and mechanic.....	" "	4	5	10:26:00							

*Unofficial time. †Met with accident. ‡Broke down 18 miles out.

Everything was thoroughly satisfactory about this inauguration of automobile road racing in this country—weather,

course, management, public approval and mechanical results.

A stiff wind helped the riders on the

run out and tested the powers of the motor vehicles on the way back, while it in no way interfered materially with the time nor the comfort of chauffeurs, if autofs have any regard for personal conveniences. While not exactly a spring day it was near enough to one not to make the club sorry for having forced the season a trifle.

Description of the Course

No better course could be found in the country for such a race. It is the one much in use by bicyclists for road races and by century riders and exact distances were easily obtained by reference to the

Street and Deer Park Avenue, Babylon, near the Sherman house, is an exact measured twenty-five miles.

The Management

The management, which fell mainly to Albert C. Bostwick, chairman of the run committee, and Capt. Homer W. Hedge, was all that could have been asked and was certainly admirable for novices in the racing game. The officials selected were efficient and there was no cause to dispute the order of the turn and finish, or the official time given out at either point. The vehicles were started at thirty second intervals that there might not be un-



START OF THE RACE.

L. A. W. road books and maps. Barring a slight rise at the start the road is a straightaway level for two miles from the start, affording a fine home stretch for the finish. It is a practical level for the whole distance and the straightaway stretch is broken only by gentle curves at infrequent intervals. The surface is fine macadam the entire length. There are no forks or side roads to bewilder even a stranger as to the proper course. It will doubtless be much used in future for time record attempts and private tests of motor vehicle and motorcycle going qualities. From the junction of Springfield Avenue and Merrick Road in front of the Palace hotel, Springfield, to the corner of Main

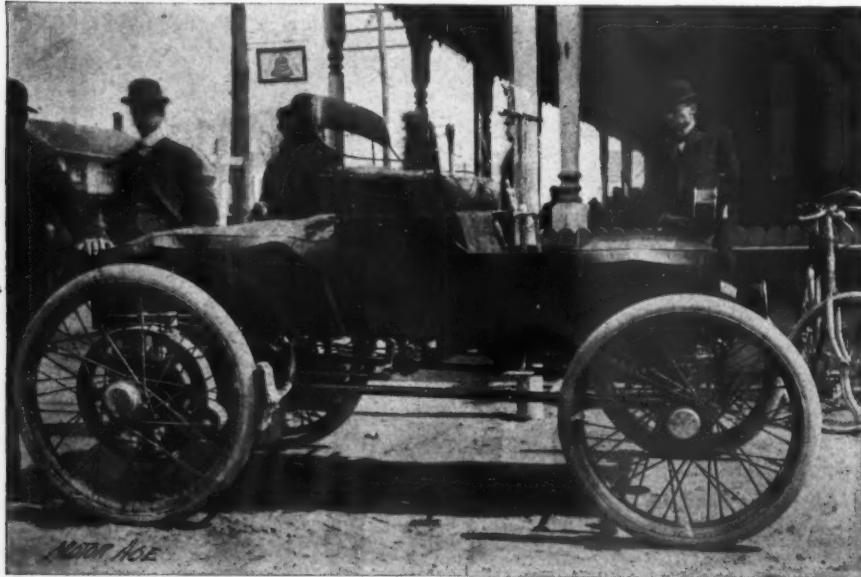
ruly bunching and the riders or carriages bore numbers corresponding with the order of their start and the numbers of the contestants published in the newspapers for the information of the spectators along the course. The turn was plainly indicated by two barrels, one on top of the other. In the morning a big wagon set out loaded with water barrels, gasoline, etc., and established supply stations every five miles in case of need or accident.

The Authorities Approve

There was no interference with the race by the public or the authorities, who, on the other hand, gave evident approval of the selection of Long Island as an au-

tomobile battle ground. The Long Islanders are a sport loving people. Hunters tramp their fields and thrash their woods, aniseed bags and an occasional fox are pursued pell mell over their meadows and truck patches without hindrance; the century fiend plugs his hundred, cycle racing swarms rush over the roads and the railroad company lets an intrepid bicycler chase its train down the track faster than a mile a minute. No wonder, then, that Long Island hailed with joyous wel-

Island has a large population of wealthy residents closely allied socially to the autofs, who wield considerable local influence. There was no need, however, to exert it, for the farmers and suburban residents welcomed the chauffeurs heartily and the seal of official approval even was set by bebadged local constables volunteering to help clear the roadway at the start, turn and finish. So it is that the Springfield-Babylon course is likely to become historic in motor-vehicle racing and



RIKER'S WINNING VEHICLE.

come the new-fangled chauffeur with the incidental fat pocketbook of a millionaire and a thirst that only the extravagant "fiz" or the festive "high ball" could assuage.

Isolated Location

There really should be no reasonable objection to racing on this stretch of the Merrick Road between Springfield and Babylon. The distance from the city and any large towns and the infrequency of trains make the course too difficult of access to admit of large crowds obstructing the highway. Very wisely, too, the crowd was confined largely to the comparatively limited autofan contingent due to the selection of an early morning hour—ten o'clock—for the start. Then, too, Long

to be chosen as the official speedway of the Automobile Club of America.

To the impartial and unprejudiced autofan and even to the more violent partisans of the warring motors the results should be highly satisfactory. The patriotic American "playing no favorite" in the motive power contest could but rejoice that Riker's Yankee ingenuity had evolved and proved to be the fastest of them all the vehicle that is to be one of the trio to represent America in the first international challenge race for the Bennett cup in France on June 14. Electric partisans had good reason to be proud that Riker's car, the only electric in the race, had prevailed against the three steam and the five gasoline carriages pit-

ted against it. It is gratifying, too, to know that the same skillful hand that guided it today will be at the lever in the international race. Another feature of the showing made by the electric was the evenness of the speed it maintained. Riker made the run out in an hour and thirty-six seconds, and breasted the wind home in 1:02:54. That the electric should have shown the ability to keep a-going at top speed for fifty miles was not the

performances of the five gasolines. All five of them finished, four of them in fast time, while the fifth was only separated from the bunch by a tire being wrenched off by too sharp a turn at Babylon. Then, too, it must be remembered that a little gasoline privateer tricycle gave the whole outfit of cars a bad beating to the turn and to the finish. It should also be remarked that the gasoline wagons were all ordinary road wagons, not a racing ma-



C. J. FIELD AND KENETH SKINNER.

least important feature of its success, goes without saying.

Comment on Other Vehicles

The upholders of steam also earned laurels of no mean distinction. At the twenty-five-mile end of the race their man Davis was first, beating Riker 2 minutes and 23 seconds, and establishing an American twenty-five-mile competition road record. Morris, a steam driven, by the way, was third, so that two of the three steam carriages were in the first three at the end of the twenty-five-mile spin.

Good, steady, reliable work marked the

chine like Riker's, nor an extra large boilered wagon like that of Davis.

THE ACTUAL RACE

Fifteen vehicles were originally entered; but for one reason and another the following failed to start: A. R. Shattuck (Winton); V. Everit Macy (Locomobile); J. C. McCoy (Winton); C. F. Weston (Winton); Le D. Langdon Barber (Locomobile), and Jefferson Seligman (Winton).

Most of the chauffeurs put up at Jamaica for the night and early in the morning were at work going over their machines with as much care as Foxhall

Keene would give to a Suburban candidate or "Ollie" Iselin would bestow on a cup defender. Many were the auto-yarns swapped and dinner wagers made on the general result of wagon against wagon.

Fully 300 spectators were gathered in front of the Palace hotel at ten o'clock, the hour fixed for the start. Many had come in carriages and awheel, but the autofans were for the most part conspicuous in automobiles. Among the latter were noticed four Locomobiles, a Canda quadricycle, an Oakman runabout, the American Auto-forecarriage seen at the show, and a Daimler wagon.

Costumes Worn

The racing men almost universally affected automobile caps of leather with peaks and broad, flat tops. Some were in out-and-out auto costume. Bostwick wore an automobile cap, goggles and mouth protector. His guest, M. Blanchet, the donor of the cup, had on leather knickerbockers, a short box pea-jacket, Scotch cap, tan shoes and noisy golf stockings. Kenneth Skinner was in conventional auto rig of leather cap and pea-jacket. Schwarzkopf, who was not in the race, wore a comic opera exaggeration of an automobile cap and knew it all. He announced the coming of the racers over the hill with demoniac gestures and altogether passed the time very pleasantly for the spectators between the start and

conditions of the race and instructed them as to the course and the turn. The line was formed for the start headed by Riker, who was towed to the start and followed in order by Bostwick, Bishop, Fischer, Hall, Field, Chamberlin and Mor-



G. F. Chamberlin and His Winton.

ris, Davis bringing up the rear and starting last. All rode with companions. They were started at 10:24 in this order.

As Riker's electric buzzed off one C. H. Tangaman, on an imported De Dion racing tricycle, set sail for him with the announced intention of going the course as a free lance—an act somewhat criticised, as he was a member of the club and tricycles were barred from the race. His fine performance, however, was interesting and valuable by way of an exhibition drill showing how speedy these racing tricycles are at such short distances as fifty miles. At Rockwell Center, $7\frac{3}{4}$ miles out, he was reported as leading Riker by a foot or so.

Along the Course

Shortly after the start Bostwick's water gauge blew out, costing him several minutes for repair. Davis coming like the wind mowed down Morris, Chamberlin and Hall before the race was very old, and caught and passed Bostwick at Amityville, eighteen miles out. Here Hall broke down and dropped out of the



Vehicle in Which Davis Won Second.

the finish. Riker and Davis wore no auto toggs at all, but got there just the same.

The Start

Referee Whitney Lyon assembled the starters at the line, explained to them the

race. Fischer and Bishop were picked up and passed a little beyond Amityville.

A crowd of several hundred had been awaiting the racers at the turn at Babylon for an hour. At 11:16 a numberless vehicle was seen coming down the road. When it reached the turn it was seen to be a motor-tricycle, whose rider yelled as he rounded the barrels, "I started with the first man," and disappeared up the road, leaving the impression that he was a fakir "tossing out a bluff." He proved, however, to be Tangaman.

Riker in the Lead

About eight minutes later Riker's electric appeared. He made a beautiful turn just missing a fish wagon and disaster by an inch or two. There was much amazement among the lay spectators that the electric should have held its lead, as they labored under the impression that an electric could not go the distance. Two minutes later Davis dashed up, having passed the whole bunch from the rear and gained two minutes on Riker.

"He'll catch that electric easy," was the Babylon verdict and they let him go at that.

Meet With an Accident

Morris, Fischer and Bishop rounded next in order. Then came Bostwick with his friend Blanchet, whose auto costumes created quite a stir among the simple Babylonians. At a longer interval came Chamberlin and at a still longer one Field with Skinner as mate.

This pair attempted a swift, short turn, far too fast and sharp, and a tire was ripped off from a rear wheel.

Despairing of Hall's arrival and Field's quick repair, the Motor Age man at that end of the race ran for the train, and so cannot report how long it took Skinner to make his repair.

Awaiting the Finish

All this time the autofans at the Springfield end were killing time hoisting high balls, drawing blind pools and making bets until the Motor Age man at Babylon gave them the time and order of the men at the turn by telephone. Then out came pencils and speculation became rife as to whether Davis could catch Riker.

Tangaman, the tricyclist, arrived at 12:21:48, having gone the distance in 1:57:48, and told them all he had observed en passant homeward bound.

Three minutes later the crowd at the top of the little hill a quarter of a mile up the road parted. In an instant the broad, low body of Riker's electric showed over the summit. Down the grade and over the last few hundred yards of the home stretch he dashed at terrific speed, winner of the first automobile road race ever run in America.

Davis' Chances

There was still chance that Davis, who started four minutes later than Riker, might be the winner, and the anxious ones divided their attention between their watches and the top of the hill. Even long after the four minutes were up the steam men had hopes of Davis, who had gained nearly two minutes in the run out, thinking perhaps he had been detained at one of the two railroad crossings. When he finally came in nearly twenty minutes later, though beaten actually but 14 minutes and 57 seconds, he assured them he had had no accident, and declared with sportsmanlike cheerfulness that he had been beaten fairly and had no excuse to make.

Fischer's Skillful Driving

As Fischer topped the hill and started down the stretch a hay wagon pulled directly across the road in his path. The spectators held their breath; but as the chauffeur swung around it with intrepid coolness the crowd burst into an involuntary cheer which continued while he crossed the line. Fischer's handling of his wagon throughout deserved the highest praise and experts paid him the compliment of declaring that with any of the Wintons he could have beaten his own and the other cars of the same maker.

Riker's Vehicle Described

Riker's vehicle had a long, broad, low body close to the ground, constructed with a view to holding the road at turns. It weighed about 2,200 pounds and carried sixty-four cells. Twelve of them, however, were not connected with the main battery. At the finish he showed a voltage of sixty-five, though he had a ca-

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pacity for double that for a sprint or an emergency of speed at the finish.

The performance of this vehicle should give Mr. Riker and all Americans considerable encouragement of its making a creditable showing in the international race on June 14. It is probable that five shifts of cells will carry the wagon through a race of four hundred miles and the shifts can be made in a very few minutes. The even rate of speed maintained going and returning, considering wind conditions, was another feature of the Riker electric's excellent performance as has been mentioned elsewhere.

Particulars of Other Vehicles

Davis' steam Locomobile was fitted with an extra large boiler, so that more steam was carried and the vehicle could stand more punishment than the other steam wagons in the race, which were of the ordinary road pattern. This boiler, however, which extended below the wagon box, had the disadvantage not only of offering greater resistance to the wind on the beat home, but of having the flames blown away from the boiler. Davis' handling of the wagon was beyond criticism.

Fischer's driving excited much comment and admiration and, as was said before, the premiership in the race of his Winton over the other Wintons was attributed by the critics entirely to his handling. The Wintons certainly made a most creditable showing, none of them going wrong and all finishing, and developed remarkable speed for ordinary wagons not rigged especially for speed.

The times for the start, turn and finish given in the foregoing tables tell the best story of the race. They are the official ones. Those taken at the turn have been corrected by a comparison of the Babylon's timer's watch with that of the timer at Springfield, whose watch was 48 seconds (and not 50 seconds, as reported) faster than the Babylon timer's watch.



DAVIS USED REGULAR BOILER

New York, April 16.—S. T. Davis, Jr., of the Locomobile Co., today made a positive denial of the statements that have been given publicity to the effect that he used a $4\frac{1}{2}$ -horsepower boiler in Saturday's

race. He says that the vehicle which he used was in every particular, the same as the ones offered for sale to the public.



COMPARED WITH FRENCH RACES

New York, April 16.—Kenneth A. Skinner was in New York last week and took part on Saturday in the race of the Automobile Club of America as a companion of C. G. Fields. Mr. Skinner drew a comparison at the close of the race. "This is not like the races of France," said he, "for over there they have oftentimes as many as 150 chauffeurs up for a contest. The hundreds of motors gather along the roads oftentimes for miles and the starters in the race go away thirty seconds apart just as was done here. But they go away in a different sort of machine now, I can tell you. There are those of cigar shape, those of the shape of a boat, others which are wedge shape and still others that look like snow plows. These machines are curious affairs of twelve to twenty horsepower. They cost a lot of money and only the wealthy people can own them. One which cost 10,000 francs could not be bought for 50,000 francs after winning one of these great races. That sort of premium has often been offered. The winning machine was priceless in fact. Count Loubet had a machine of the wedge shape which lately did a mile in 1:12 and as this is world's record I do not believe in this ride of Rene De Knyff, who was lately credited with $3\frac{1}{2}$ miles in $33\frac{1}{2}$ minutes. I guess that the kilometer measurement and the mile measurement must have become mixed. Count Loubet's machine was of electric propulsion and the entire inside was filled with batteries except space in which the daring chauffeur might hide himself with but his head showing. We have nothing of that kind in this country, of course, but the racing fever is here now and it will not be long before we shall have just such racing machines in America and the Americans will be found just as fast and daring as the Frenchmen. Motor racing is new yet over there and they plan now to increase the speed of the autos while at the same time reducing the horsepower."

A MILLIONAIRE'S MOTOR OFFICE

AN ACCOUNT OF HOW A WEALTHY BUSINESS MAN CONTRIVES TO DEVOTE MORE TIME TO BOTH BUSINESS AND RECREATION BY THE AID OF THE AUTOMOBILE

Everyone knows about Multi-Millionaire Fiske, with his proverbial energy and keen business judgment and the manner in which he acquired his immense fortune between the ages of twenty-five and forty. He is one of those men who believes in devoting a certain number of hours a day to his business and the others to healthful recreation and rest, and, by following out his ideas in this direction, he has preserved a vigorous manhood at a period of life when many men begin to feel the ravages of combined years and hard work.

An Interview

The writer, in common with the general public, knew this much, but was not aware of some of the methods by which Mr. Fiske carried out his ideas until after he had had an interview with one of Mr. Fiske's friends, who explained some of these methods, which will doubtless be of interest to the readers of the Motor Age.

This friend, after explaining that he was an old schoolmate of Mr. Fiske's and had not seen him for a number of years, living in another city, told how he had visited New York, where Mr. Fiske resides, and had sent word from his hotel that he was in town. In answer to this note he received a brief but courteous one from Mr. Fiske, asking him to call at his (Mr. Fiske's) office "at five o'clock sharp" for dinner. The gentleman then continued his narrative in the following manner:

A Millionaire's Office

After dressing for dinner I drove to Mr. Fiske's business quarters, which I found on the first floor of a substantial office building, arriving promptly at the hour named. After sending in my card, I was ushered through a spacious anteroom with high ceilings and then through a short passage into the office of the millionaire himself. The first thing that

struck me was the fact that the office seemed very small for that of a millionaire where transactions involving tens of thousands of dollars were of daily occurrence. There was a small mahogany desk that entirely filled one end of the little room. On top of this desk were drawers and pigeon-holes and closed compartments that extended clear up to the low ceiling. Besides the desk and its appurtenances there was nothing in the room, in the way of furnishings, except a carpet, three chairs, one of which was occupied by Mr. Fiske, and a small table, on which stood a typewriter. A stenographer, to whom Mr. Fiske was dictating when I entered the room, occupied another of the chairs.

His Business Methods

"How do? Have a seat. Have you a little time to spare? Yes? Then wait until I have finished these letters," was the greeting I received.

Mr. Fiske continued dictating letters, the stenographer taking the interruption as a matter of course, although there was hardly room for the three of us in the little room. It was not long before I noticed a trembling on the floor, and, wondering what could be the cause of it in as substantial a building as that which I had entered a few moments before, looked around to ascertain the cause, if possible. The cause was not to be seen, however, but I noticed, for the first time, that the room had no windows, being lighted entirely by incandescent electric lights. This seemed as strange as the absence of commodious quarters for a millionaire.

The Close of Business

While I was wondering about these things, Mr. Fiske finished his dictation and the stenographer turned to his typewriter and started to transcribe the letters.

"Hope you did not mind my continuing

business?" said Mr. Fiske, turning to me and shaking hands most cordially. "You have not lost any time, however. If you had taken a carriage or a cab direct to my house, you would not have been there any sooner. You see I dine promptly at 6 o'clock and it is necessary to finish my work."

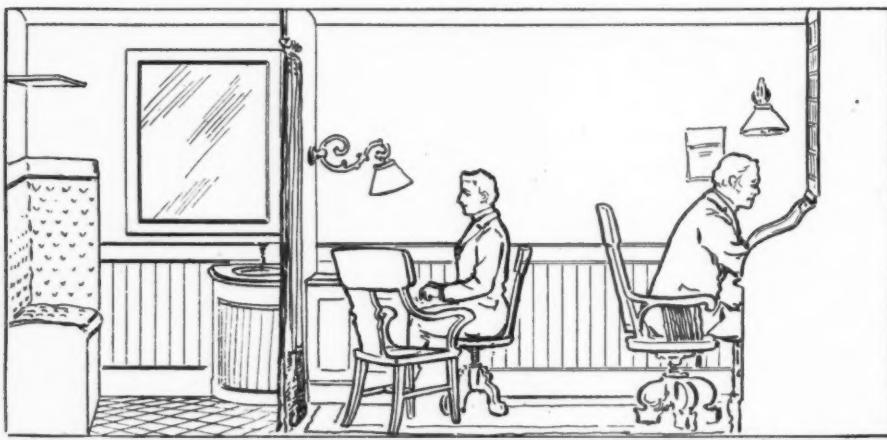
Seeing the look of wonder on my face he smiled but did not vouchsafe any explanation, but said: "Come into the next room, if you don't mind seeing me dress, and we can have a little conversation during the operation."

Suiting the action to the word he opened a door in the rear of the office

In a businesslike manner, Mr. Fiske proceeded to perform his ablutions and don his evening clothes, carrying on a running conversation the while. All this time the jarring continued. It was a great mystery to me as well as Mr. Fiske's actions, but, knowing his peculiarities, I refrained from asking questions. Finally, his toilet being completed, he sat down beside me and continued his talk.

"It is nearly dinner time," he said, a few minutes later, looking at his watch. "I usually time myself so that I will be dressed just before the dinner is ready."

Just then there was a decided jolt and



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MR. FISKE'S OFFICE AND DRESSING ROOM.

and stepped into the next room, where I followed. If the office was too small, this room was worse. It was unmistakably a dressing room, but was not more than four feet square. Across one side, opposite the door, was a seat upholstered in leather.

"Excuse me," said Mr. Fiske, lifting the seat, which revealed a box containing clothes, from which he took a pair of trousers. "Now have a seat."

On one of the walls hung two or three coats and waistcoats, while linen and all the necessary toilet articles reposed on a shelf above my head, as I sat on the leather seat, while a mirror and a wash-stand occupied one corner.

Mr. Fiske arose and said, "Come." He then led the way through the office, where the stenographer was just sealing up the letters which he had transcribed while Mr. Fiske was dressing, and into a little passage. It did not seem to me the same as the one by which I had entered the office, but I said nothing. Issuing from the end of the passage I found myself in a magnificent dining room, while, from a door on the opposite side of the room entered a lady, who proved to be Mrs. Fiske, and a number of guests.

A light began to dawn on me, but there was no opportunity to ask questions during dinner and I was obliged to await the end of the meal before my curiosity was

fully satisfied. Finally when the ladies had retired, Mr. Fiske appeased my desire for particulars.

"You see," said he, "it takes nearly an hour from the time I leave my office till the time I reach home, no matter what means of transportation I employ. You know that I have very firm convictions as to the value of time and other convictions as to how time can best be employed.

The Millionaire's Views

"I used to think how convenient it would be and what a saving of time it would be if my business and my residence could both be in the same building. But of course such a thing as that could not be thought of in New York city. There was a clear hour wasted twice a day in going back and forth. Now supposing that it takes ten hours for my sleep, my dressing and my breakfast and luncheon, then I have fourteen hours to devote to business and pleasure—I number the enjoyment of my dinners among my pleasures. I was compelled to lose just one-seventh of my available time in unprofitable traveling back and forth.

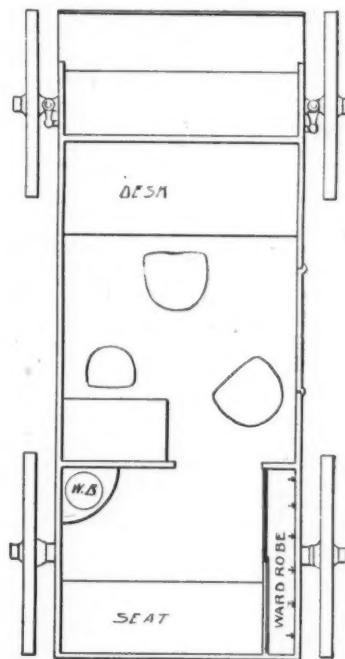
Former Loss of Time

"I used to devote eight hours a day to business. That left me six hours for recreation, including my dinners with my family. Now it is different and the automobile has made it so. Here we are, eight miles from my office, and no time has been lost in traveling. Now I leave the house at eight o'clock in the morning, stepping from the breakfast table to my office. I press an electric button and my driver, who is on the box, pulls the controller and I am en route for down town. During the hour which it takes me to reach down town I am busily employed. When I arrive there the only difference is that I am in touch with the entire office force. If it becomes necessary to go some distance to attend a directors' meeting or keep some other business engagement, I am carried there without loss of time. On the trip down town I save a clear hour. I save another half hour—on an average—each day in getting about town. When I leave the office at five o'clock, I usually devote half an hour to business with a stenographer

at my elbow, as you saw this evening, and then dress, arriving at home prepared for an early dinner and an uninterrupted evening of pleasure in any manner that I may elect.

Time Saved Daily

"It is a great thing this automobile. Allowing a half an hour for lunch, I have a clear nine hours for business, an hour more than I used to have, and I gain at least a half an hour's value in my running around town. I leave home a half an hour later than I used to do and ar-



Plan of Motor Office.

rive home at the same time, but dressed for dinner. That gives me an extra hour to myself away from business, really a total saving of two hours and a half."

Then Mr. Fiske showed me the plans of his office-motor, as he calls it, which is run by electricity.

"But how did you come to think of such a thing?" I asked.

The Motor Age Responsible

"Why," said Mr. Fiske, "I ran across a number of a paper devoted to automobiles—it is called the Motor Age, I believe—in which there was a fictitious ac-

count of a traveling man who utilized an automobile in which to travel from town to town, saving time and money by that means. I became interested at once and made up my mind that the idea was entirely practical. I called a prominent automobile maker into consultation and he told me that it would be perfectly feasible to construct a motor-vehicle that would combine an office and dressing room, and I gave him an order, on the spot, to construct me one. The one in which you made the trip from down town was the outcome.

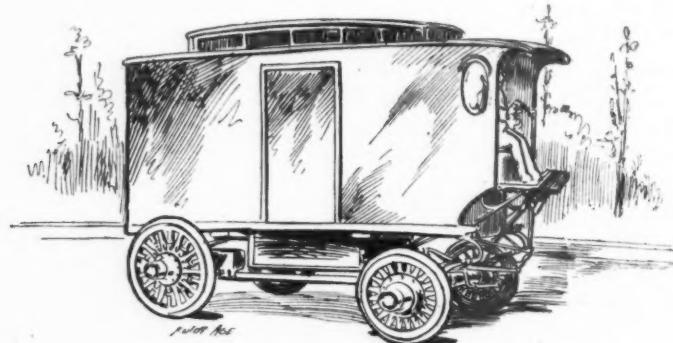
"I have no windows in it so that I will not be disturbed by the passing scenes, but I have a skylight which I use in the mornings and during the evening. I had the curtain pulled over it this evening for the purpose of mystifying you," and he smiled a superior sort of smile.

"At the office," he continued, "I had constructed a passageway leading from the side street directly under a court where I get the benefit of the light from above and can step from the door of my motor-office directly into the main offices.

Outside Appearance

"Of course the vehicle is not exactly what you would call handsome, from the outside, appearing, as you see from the photograph, more like a furniture van than anything else. However, I do not go much on appearances and so long as it means two and a half hours of time gained every day, I am well satisfied.

"I have some other plans in the way of automobile novelties which I believe will be just as interesting to you as the one to which I have introduced you and I will tell you about them later."



KING'S AUTOMOBILE HUB

A. W. King, the Chicago motor-vehicle builder, has devised a metal hub for wooden automobile wheels, which he is using in the steam vehicles that he is now constructing, and which (hubs) he intends to put on the market in the near future. Patents are pending for the device and Mr. King believes that it will be broadly covered. The construction is certainly novel and practical, besides having the advantage of being economical in manufacture. It provides means for taking up any looseness in the spoke recesses in the hub that may be caused by shrinkage of

the wood and permits the removal and replacement of any spoke without taking the entire wheel to pieces.

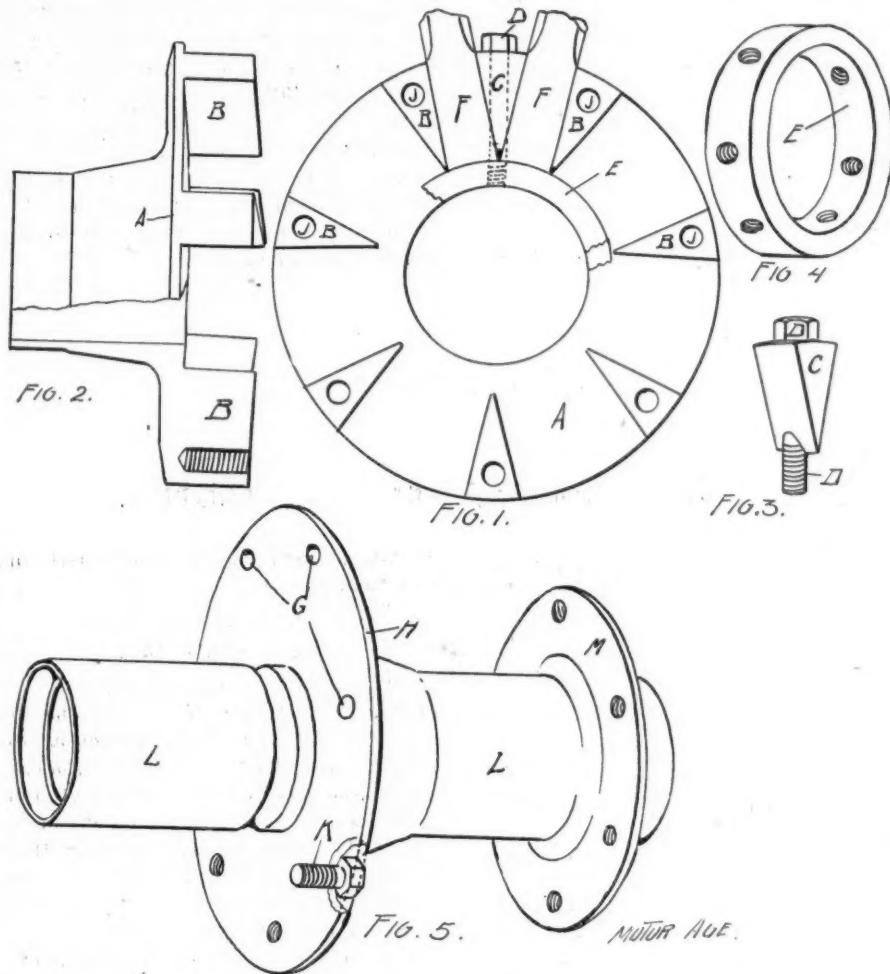
In the accompanying illustrations, Fig. 1 represents the outer portion of a rear hub and Fig. 2 a side view of the same, showing the finish of the end in the shape of the ordinary wooden hub. This portion is formed with a disc-like member A, on the inner face of which are seven wedge-shaped shoulders B having their apices pointed towards the center of the hub and provided with the threaded holes J. This number of shoulders, seven, is designed

for a wheel with fourteen spokes and can be varied for any even number of spokes.

Fig. 3 represents a wedge-shaped member C, which is one of seven similar members, corresponding in size with the shoulders B on the disc A and designed to lie between them. These seven wedges C are each provided with a hole through

shoulders for the reception of the inner ends of the fourteen wooden spokes F.

In Fig. 5 is seen the principal part of the hub on which is a disc H corresponding in size to the disc A. In this disc H are seven holes G corresponding in location to the threaded holes J in the wedge-shaped shoulders B of the disc A. The



KINGS AUTOMOBILE HUB.

which run bolts D designed to be screwed in seven corresponding threaded holes in the ring E shown in Fig. 4. The seven loose wedges C being held to the ring E by their bolts D, are laid between the seven wedge-shaped shoulders B of the disc A, as shown in Fig. 1, thus leaving fourteen recesses between the wedges and

wedges C and spokes F being placed in position on the disc A, the disc H is placed against them and the seven bolts K are screwed into the threaded holes J in the shoulders B. In this manner the spokes are held firmly between the two discs A and H. Then the bolts D passing through the wedges B and into the ring E

are tightened until all the spokes are firmly held. Any looseness arising from a shrinkage of the wood or other causes can be overcome by tightening the bolts D or K, or both. If it becomes necessary to remove any spoke, it can be readily done by loosening the bolts D and removing the bolts K when the discs A and H will come apart.

It will be seen that each spoke is given an independent and rigid support which can always be maintained.

The discs A and H are planed to present an angle varying slightly from a right angle with the axis of the bearing, as will be seen by reference to the illustration, to give the proper stagger to the wheel.

Another feature on which Mr. King lays

particular stress is the length of the hub L as seen in Fig. 5. In this figure, the left hand end of the hub is the outer end and the right hand the inner end. On this latter end will be seen a flange M on which may be bolted or screwed a sprocket wheel for the transmission of the power by means of a chain or a pinion for meshing with another pinion. Mr. King uses a chain. It will be seen that this arrangement gives a very great spread between the two ball races and makes a consequently substantial and easy running bearing.

The front hub is made in substantially the same manner as far as the holding of the spokes in place is concerned, but the barrel of the hub is made shorter to attach to the stub axle.

TO AND FROM EDITOR AND READER

FUNCTION OF THIS DEPARTMENT

To make clear the function of the department of the Motor Age which has become a fixture, under the above caption, the editor begs to state that all subscribers of the paper are at full liberty to take advantage of it to ask any and all questions, pertinent to the scope of the paper, which questions he will answer to the best of his ability, either in print or by personal letter—the former when the questions are of such a character that they and their answers may prove interesting to the general reader, and the latter when they are not of general interest. Communications of a character generally interesting are also welcome.

Correspondents are requested, however, to make their communications as short and to the point as possible. It is not necessary for correspondents to eulogize the Motor Age or to flatter the editor in order to secure answers to questions or the publication of interesting letters. The well known modesty of the editor would

prohibit the publication of such parts of the letters, in any event.—Ed.

ABOUT WIRE WHEELS

Editor The Motor Age:

I note in your issue of the 12th instant an inquiry from a correspondent as to the tying of the spokes of a motor vehicle. The writer has had a very broad and varied experience in the construction of wire wheels and can say positively that spokes will stand as well not tied as they will tied; providing the wheel is properly constructed in other respects.

In other words, the tying of the spokes is a small item as compared with other vital principles underlying the building of a wire wheel. The writer has seen several vehicles with radial spokes of wire in the driving wheel. The question of tying does not enter here of course until the wheel ties itself in knots when the power is suddenly applied. Such construction should never be used for a driving wheel. Some wheels may be in success-

ful use of this construction; if so it is certain that those same wheels might be made much lighter and do the same work if of the proper design.

Next important in the wire wheel, and a feature adding much to the strength and security of a wheel, is the use of a spoke without a bend in it. No matter how perfectly a spoke may fit the flange into which it hooks, there is always a chance for alternate bending strains and consequent rupture. A straight spoke avoids this danger absolutely.

The length of the hub as compared with the diameter of the wheel is most important. The way in which the spokes are attached to the rim, the degree of stagger to be given and the number of spokes are all very important factors. These can not be the same for all kinds of vehicles or tires, and must be designed with especial reference to the work in hand.—Henry Souther, Hartford, Mass.

Mr. Souther is a well known consulting engineer and mechanical expert, as well as state chemist. His letter is in answer to C. L. Rogers of St. Louis.—Ed.

ADDRESS SUPPLIED

Editor The Motor Age:

In your issue of March 17 you gave a description of the Belgian Duryea carriage. Will you kindly give me the address of the parties making these vehicles in order that I may investigate?—Thomas P. Gaddis, Dayton, Ohio.

The name of the company is Construction Liegeoise d'Automobiles (Liege Automobile Works) and the address Liege, Belgium.—Ed.

LIKES HIS PATROL WAGON

Editor Motor Age:

Being in control of what is claimed to be the first electric, automobile, patrol wagon in the world, I have an idea that your paper will be interested in me.

The vehicle we have in use here is a twelve horse-power, has a twenty-mile capacity on one charge and a speed capacity of twenty-five miles an hour on level roads. It has Archibald wheels, forty-

eight and thirty-eight inches in diameter, fitted with rubber tires, weight 5,800 pounds, is equipped with three brakes, top headlight, etc.

We have had it in practical use for some time now and are well satisfied with it, and, from personal experience, I am frank to say that the auto or motor is the coming vehicle.—H. H. Harrison, Chief of Police, Akron, Ohio.



REEVES SPEED CHANGING GEAR

Editor The Motor Age:

Can you give me an idea of the length of the life of the Reeves speed changing gear or friction pulley, described in your issue of October 10, 1899?—A. C. Bennett, Mankato, Minn.

The editor is not personally acquainted with the life of the device in question but it will depend entirely on the excellence of the mechanical construction, there being nothing in its design to prevent its having as long a life as almost any part of a motor-vehicle.—Ed.



SELLS "P. T." MOTOR NO MORE

Editor The Motor Age:

I beg to advise you that we gave up the selling agency of the "P-T" motor on the 9th instant. Will be pleased if you will kindly advise the trade and public through your valuable paper.—Charles E. Miller, 97-101 Reade Street, New York.



LOOKING FOR PARTS

Editor The Motor Age:

We have incorporated under the laws of the state of California for the purpose of manufacturing automobiles, run by gasoline power and gasoline engines. We expect to get our plant in operation in sixty days.

Of course there will be parts of our automobiles that we will purchase outright and we should be glad of any information in regard to such parts, which will be gladly received.—Selma Automobile Co., Selma, Cal.

Explicit advice is difficult to give in the absence of details of the proposed construction. If such be sent, The Motor

Age will attempt to tell what firms are in the best position to supply the necessary parts. Makers of parts may serve their own interests by writing to the company.

—Ed.

INDUCTION COIL CONSTRUCTION

Editor The Motor Age:

I would like to ask if you can furnish the details of how to construct an induction coil suitable to fire gasoline engines? We are building engines and putting on a piston ignitor, but they give trouble. I am well enough posted in electricity to construct an induction coil that would produce an eighth or quarter-inch spark, but fear there would not be enough heat in it to fire engines. We use a magneto giving an alternating current for our igniter, and if I could use the jump spark it would be a benefit, as they would be less liable to get out of order.

The information I require is number of turns on primary and size of wire, also number of turns on secondary and size of wire. I suppose a condenser would not be necessary when an alternating current is used. If you can put us on the right track, I will pay you for the information, as it would save some experimenting.

I have read the article in Motor Age on the jump spark and can see clearly how it works, but do not know what size and quantity of wire and dimensions for coil.

As I have seen it referred to as being an old device, I suppose it is not patented, otherwise I would not have ventured to ask above questions.—Thos. J. Speight, Georgetown, Ont. —

It is impossible to give an accurate answer to Mr. Speight's question, inasmuch as he does not give the current of his magneto. In any event he will need a condenser.

In the average coil the windings are as

follows: For the primary winding, number 16 cotton covered wire of eighteen yards to the pound should be used. Three or four layers of this wrapping should be made. For the secondary winding use number 38 silk covered wire, 180 yards to the ounce. Six ounces of this wire should be used.

In constructing the coil the lengths of soft iron wire should each be treated separately with a coat of shellac and allowed to dry and then the operation repeated. The smaller the wire used in the core, the better will be the results. After this is done the wires should be assembled and a layer of paper wrapped around them and that, in turn, coated with shellac. Then the primary wrappings should be made and the whole treated with a coating of beeswax, or beeswax and rosin. Then the secondary wrapping should be made, giving a coat of shellac to the wire before winding. Each layer should be shorter by one strand at each end than the one beneath it. After the winding is completed then the whole should be treated to a coating of beeswax which should entirely fill the spool.

The wires from the coils are connected to the trembler in the usual manner.

The coil described will give a spark as long as $\frac{3}{4}$ of an inch and if the distance be reduced to $\frac{1}{4}$ inch, the spark will be very hot. A spark 1-16 of an inch in length is sufficient to ignite a gas engine.

As for the matter of economy, Mr. Speight will doubtless best conserve his interests by buying a coil complete. The Varley Duplex Automobile Coil, invented by Richard Varley, will answer the purpose. It is for sale by the Electrical Appliance Co., of 92 West Van Buren Street, Chicago. The Motor Age desires no remuneration and is glad to be of service.

—Ed.

JARROTT'S RACING HISTORY

The following account of his personal experiences in motor racing by Charles Jarrott is interesting:

As an Englishman interested in the automobile sport and industry from its inception and commencement in England, having also had the opportunity to watch its growth on the European continent, the marvel to me on this my first visit to America is that the American nation has not, with its usual foresight and perception, appreciated ere this what vast opportunities this coming craze has, both from a sporting and from an industrial point of view. The average American road may have more to do with it than is at first apparent, but still to follow the lead of Europe on matters pertaining to mechanical traction is surely not American. That the movement is making rapid strides here is apparent, but the general mass of the people have not yet been enthused in the same manner as on the continent—and in a somewhat lesser degree in England—and this brings me to the subject matter of this article: Automobile racing, and its importance in relation to the new industry.

In 1895 the automobile industry in France was just emerging from that stage when the necessary fundamental experimental work in connection with the proper construction and working of a motor carriage had been completed. A few of the leading manufacturers having turned out carriages of a fairly satisfactory character, a great automobile race was arranged from Versailles to Bordeaux, back to Versailles and on to Paris, the distance covered being about 730 miles. This was a very severe test, but the whole scheme met with general approval and the race was carried out.

The road is a particularly hilly one, but a M. Levassor succeeded in accomplishing the journey in a four horsepower gasoline carriage of his own construction in just over 48 hours. The first excellent test and the number of carriages successfully accomplishing it, demonstrated to the French people the great possibility in the new form of mechanically propelled road vehicles, and engineers and manufacturers went ahead as fast as possible to meet the great demand which immediately sprang up for motor carriages.

The following year another great race was organized from Paris to Marseilles and back, about 1100 miles. The winner again was M. Levassor, with an eight horsepower gasoline carriage, which succeeded in accomplishing the journey in 67½ hours. This race was run in an appalling gale, and the drivers had to get down from their carriages

and remove fallen trees from the road to enable them to proceed on their way. A regrettable accident happened to M. Levassor while driving his carriage in this race, as, in trying to avoid running over a dog, he swerved, upset the carriage, was thrown out and killed. (By the way, I have brought over with me to America this identical carriage fitted with a more powerful motor, and it is running magnificently, although constructed nearly four years ago.) I have been giving these events as they may prove interesting in showing what led up to the great enthusiasm now shown in France in connection with automobile racing.

The excitement engendered in connection with this last race knew no bounds. Other races were organized, and the new sport was un falt accompli. To the manufacturers these races were invaluable, as they were enabled to test their carriages in a manner otherwise impossible, and weaknesses were discovered and remedied immediately in consequence. These races were and are countenanced by the authorities and everything is done to aid them, even to the extent of posting troops at various parts of the road to prevent accidents or obstructions to the competitors.

In England in 1896, the necessary act was passed by parliament to permit the running of automobiles on the road, which a previous law prohibited. The new act only allowed a speed to be attained of twelve miles an hour, and as this law is still in force, road racing is an impossibility in England; and the only contests possible there have to be confined to the track.

The first automobile race in England took place in connection with the second annual run of the Motor Car club to Sheen House, where there is a private cemented track, and was won by myself. Besides winning this race, I established a motor cycle record for one mile, doing the distance in two minutes and eight seconds.

The second race took place in November, 1898, and in this I finished second to S. F. Edge, who had brought over a new French racing machine for the occasion.

In 1898 the great French race—Paris to Amsterdam and back—was won by M. Charron. Of course, a number of smaller races were run in various parts of France during the season with great success.

At the beginning of last year the Motor Car Club of England set itself to deal with the question of motor racing and promoted during the year a large number of races in London and various provincial towns in England with a marvelous amount of success. These races were practically confined to motor tricycles, and the sport was of suffi-

ciently exciting character to appeal to the public taste in a marked manner. Some most exciting races took place; for instance, one in the earlier part of the year, when C. G. Wridgway rode a match against Rigal, of France, at the Crystal Palace, London, and beat him. Another exciting race was between Mr. Wridgway and myself, when I defeated him in one of the most exciting races on record by a machine's length in five miles in the then record time of eight minutes and 22 seconds.

The race between S. F. Edge and myself for the championship was also of a very exciting character, and the enormous crowd of people present was worked up to a very high pitch of enthusiasm. This race I also won, but only with a few inches to spare, in the new record time of 8 minutes and 11 seconds. The races held at Liverpool when Mr. Edge and myself went down to meet a team of French racing cracks and met with signal success, were also very exciting.

I am quite sure that the public in America will take very kindly to contests of this description, as they are very much more exciting than ordinary cycle racing, as a very much higher rate of speed is attained. The sight of four or five men traveling at the rate of forty miles an hour around a very highly banked track provides as much excitement as the ordinary man requires.

So far as France is concerned, of course, the roads there lend themselves particularly to the purpose, and special racing machines are constructed to obtain the highest possible speed. It is interesting to note here what tremendous jumps have been made in this respect within the last two or three years. From four horsepower in 1895 the horsepower of the competing machines has increased to twenty horsepower in 1899, and in this year's races on the continent there is every probability of carriages fitted with twenty-five to thirty horsepower taking part; and when the word "finis" will be written I do not know. In some of the recent races an average speed of over forty miles an hour has been maintained over a long distance, which means that on certain portions of the journey a speed of nearer fifty miles an hour must have been accomplished to make up for the necessary loss of speed in hill climbing at other parts of the journey.

As a competitor myself on a motor cycle in the last race—Paris to Bordeaux—I had a good opportunity of judging the amount of nerve, endurance and coolness required in these road races. Traveling at from thirty-five to forty miles an hour, smothered with dust and tired beyond all endurance, passing or being passed by the highly powered racing carriages, with over 100 competitors taking part, it was brought home to my mind that a 400 mile race was not child's play, and that the winner had something to be proud about.

And what a sight the start of a great French automobile race is! The competi-

tors, arriving on the low built, powerful racing carriages, clad in leather for protection against the cold, goggles and masks for protection against the dust and possible rain, the roar of the motors, the excitement of the crowd, the daring and expert handling of their machines by the competitors on motor cycles endeavoring to get to their respective starting stations, the starting signal being given and the mad scramble to get to the front by a hundred keen competitors—all go to make up as exciting a scene as can possibly be imagined.

The drivers on the carriages have, as a rule, only a small seat for themselves, and the accompanying attendant has to lie down on the floor, so as to offer as little resistance as possible to the air. The motor cyclists crouch down on their machines until the body lies parallel with the top tube, also with the same idea of offering no resistance to the wind, and on and on they go, mile after mile, 100, 200, 300, 400 miles, toward their goal.

Personally I have experienced and can imagine no keener sport than automobile racing.

It is an impossibility to carry out automobile road races in America on the same line and in the same manner as on the continent owing to the roads. In France and Germany, where the best roads have been built for military purposes, where the surface is as smooth as a billiard table, and where the gradients are so even, very high speeds are obtainable.

Regarding track racing, however, there is no possible reason why the sport should not be taken up right away. You have the tracks, and surely you must have the machines. As for the people, my experience in England makes me answer for the American public that no one would be more enthusiastic than they after having had an opportunity of witnessing a good race between good men mounted on powerful racing tricycles in keen competition.

Reverting to the continental racing, this year will lend additional interest in this direction from an American point of view. The cup presented by James Gordon Bennett to the Automobile Club de France for competition between the various national automobile clubs will be competed for in June. The race will be from Paris to Lyons, 341 miles, and a great contest is expected. Mr. Winton and Mr. Riker are representing the Automobile Club of America and will make an attempt to win the cup for America on machines of their own construction; but France does not intend to be beaten, and the well-known French chauffeurs, Chevalier Rene de Knyff, M. Charron and M. Giradot, have been selected to uphold the honor of their country. Special machines are being constructed of enormous horsepower, and, personally, I believe they stand every chance of winning the cup for France this year. All the other automobile clubs are competing Belgium, Germany, Switzer-

land, etc., except England, as I believe the latter country has appreciated the difficulty of beating the Frenchmen on their own ground and prefers waiting a year to enable the English manufacturers to even matters up by building as powerful machines as those used by the Frenchmen.

Another great race will take place from Paris to Bordeaux on May 23. This race is considered the automobile derby of France and will be very keenly fought out, as the result will foreshadow in a degree the probable winner of the Gordon Bennett cup race. I am hoping to compete again this year in this race on a special racing carriage now being constructed for me in America. This novel carriage will carry a twenty-eight horsepower gasoline motor and be constructed in the shape of a torpedo to assist in overcoming wind resistance, and the

speed I hope will be something better than has yet been accomplished either in France or anywhere else. Time and opportunity will prove. Wriggway will drive a similar machine in this race.

Of course, there will be a large number of other races held in France this year over various other races and for various types of machines. The 26th to the 30th of March saw the automobile meeting at Nice for speed, tourist and other classes. After the Gordon Bennett competition, from the 2d of July to the 7th of July, will take place the five days' trefoil race in and out of Paris. On the 23d to the 28th of July the Etoile race will be held. Then come the races of the Belgian club at Spa, and so on. The whole year will see competitions of various descriptions in connection with the new sport.

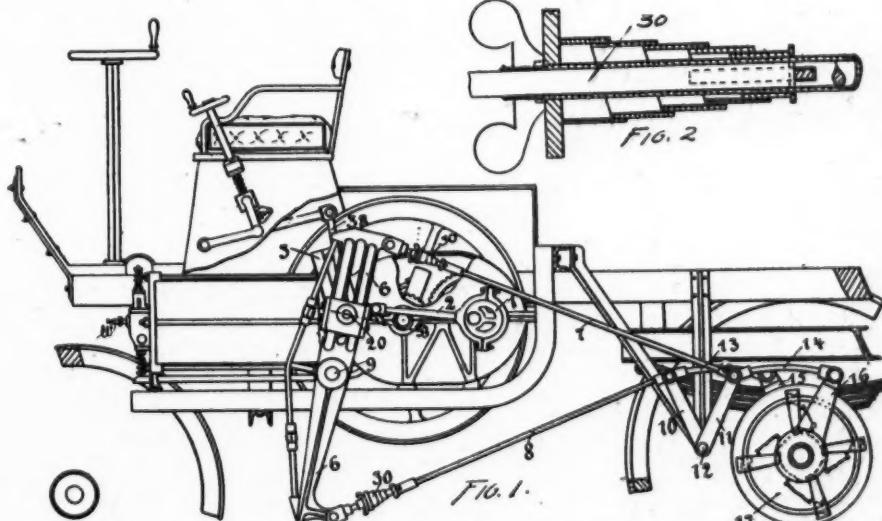
WEEKLY PATENT OFFICE BUDGET

CLUTCH TRANSMISSION GEAR

Letters patent No. 646,982 to Rudolf Hagen, Cologne, Germany.

This patent covers means for transmitting the power from the motor shaft

tory motion to the rod 2 and this rod in turn actuates the slotted lever 3, which is connected by a slidable block 20 with the rocking beam 6. Provision is made for adjusting this block 20 while the mechanism is being actuated to give a



HAGEN'S TRANSMISSION GEAR.

of an engine by means of a rocking beam and friction clutches to the axle of the traction wheels. From the motor shaft, a cam 1 (see Fig. 1) transmits reciproca-

greater or less motion to the rocking beam 6. This rocking beam 6 is connected by rods 7 and 8 to arms 10 and 11, which are pivoted to 12. These

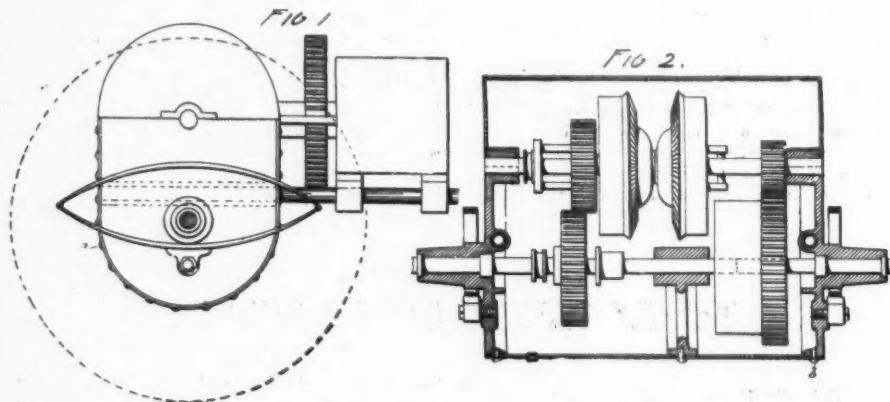
arms 10 and 11 are connected by rods 13 and 14 with the arms 15 and 16 of the friction clutch 17 on the axle of the traction wheels of the vehicle. Special stress is laid on the arrangement of these rods and levers as being such that in the transmission of the power the

while the stroke of the opposite rod begins.

Four claims are allowed.

HAY'S MOTOR VEHICLE FRAME

Letters patent No. 647,261 to Walter Hay, New Haven, Conn., assignor to Em-



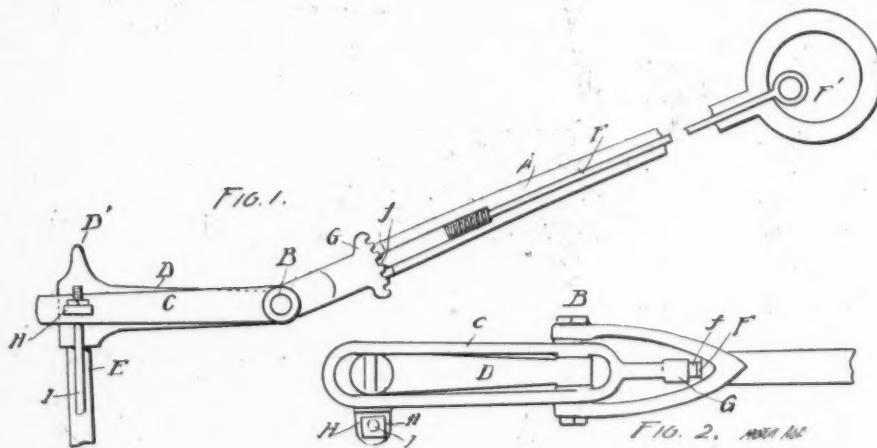
HAY'S MOTOR-VEHICLE FRAME.

springs of the vehicles will not be compressed and released as would be the case if the rods 7 and 8 were directly connected with the arms 16 and 17.

To maintain a constant torque on the

erson M. Hotchkiss, Waterbury, Conn.

This patent does not cover the means of power transmission, although the latter is shown, but applies to the frame construction which includes a gear box



HAY'S OPERATING MECHANISM.

axle of the traction wheels, the rods 7 and 8 are provided with the springs 30, shown in detail in Fig. 2, which springs are gradually compressed during the stroke and at the end thereof, expand

or case for holding the transmission gear, to which case the reaches of the vehicle are fixed and in which the rear axles are journaled, making it a part of the frame. The illustrations show the construction.

Fig. 1 being a side elevation of the rear portion of the vehicle containing the gear case and Fig. 2 a plan view of the gearing, showing the gear case in section.

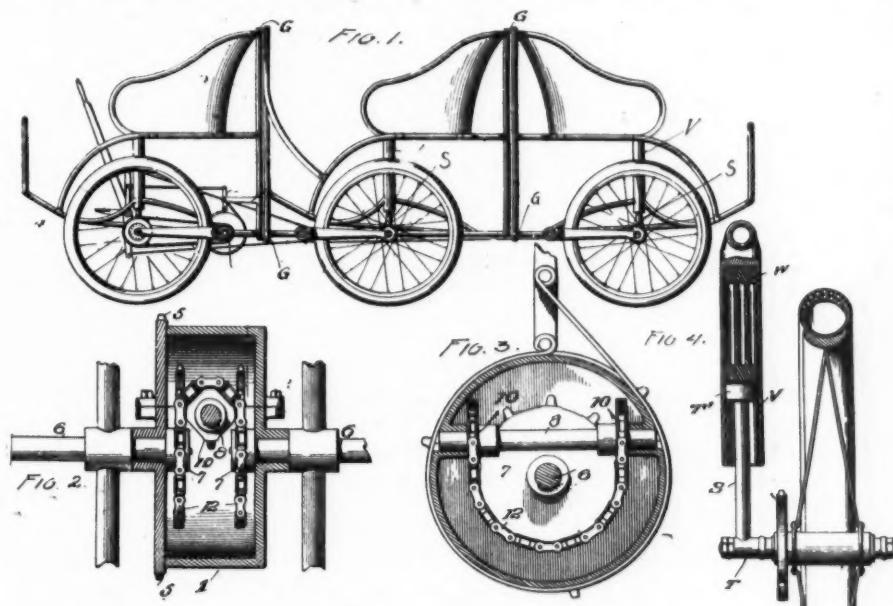
The six claims allowed are of considerable strength but do not broadly cover the use of a gear case as a part of the vehicle frame, but do cover an excellent method of constructing such gear case.

HAY'S OPERATING MECHANISM

Letters patent No. 647,262 to Walter Hay, New Haven, Conn., assignor to Emerson M. Hotchkiss, Waterbury, Conn.

This is to the same inventor as the fore-

movement it will force the member C to rotate about the point B. The lug H is pivotally attached to the member C and rigidly attached to the vertical rod I. Thus, it will be seen, when the member C is rotated about the point B the rod I will be raised or lowered and will, by means of intermediate mechanism, operate friction clutches which will give the vehicle a forward or a backward speed, proportionate, says the patent specifications, to the power exerted on the lever and thence to the friction clutches. A second lever is provided (not shown) to give the hill climbing speed. By disen-



ANDERSON'S CONTRIVANCES.

going potent and bears the next serial number. It refers to operating levers. In Fig. 1 is shown a side view of the principal lever, partly in section. The end of the lever is provided with a handle in the shape of a ring for the operator's hand.

The upright portion E of the lever is integral with the portion D (see Figs. 1 and 2), which portion D is provided with a joint at B, at which point it is independently connected to the member C and the member A. The member C is provided with the rack G in which the finger f of the spring actuated rod F of the member A is normally engaged, so that when the member A is given a vertical

gaging the finger f from the rack G, by means of the small ring F', the member A can be rotated independently of the member C and can be thrown clear back so as to rest on the projection D' so as to permit easy ingress and egress to the occupants of the vehicle.

ANDERSON'S STRANGE CONTRAPTION

Letters patent No. 647,244 to James C. Anderson, Highland Park, Ill.

Mr. Anderson's patent covers a multitude of mechanical sins.

Fig. 1 shows one form of the vehicle covered by his patent which may be made

in two or more sections, capable of being hitched together by bolts connecting ball bearings at the points G G G G. This portion of the device, with the means provided for steering, are not worth discussion.

He provides a novelty, however, in the way of a differential gear, which, for the sake of its novelty, at least, should be described. It is shown in Figs. 2 and 3, in which 1 is a cage carrying the differential gear and a sprocket wheel 5 for the transmission of the power to the cage 1. In place of the usual bevel gears on the inner ends of the axle 6 6 of the traction wheels, two sprocket wheels 7 7 are provided. Over these two runs a chain 12,



Schnepp's Tire.

of a peculiar construction and for which a separate application for patent has been made. This chain has its alternate links pivoted at right angles to each other, so that it can work in planes at right angles to each other as shown in Fig. 2. In addition to the two sprocket wheels 7 7 on the ends of the axle 6 6 of the traction wheels, there are two other sprocket wheels 10 10, over which the chain 12 runs, which sprocket wheels 10 10 act as idlers and are carried on the shaft 8 which is carried by the differential cage 1. By this means, it will be seen that the combination of sprocket wheels and chains can produce differen-

tiation between the axles 6 6 when required.

Another feature of the vehicle, which is also the subject of another application, is the provision for spring motion in the wheels. Each wheel is held in a practically horizontal fork, similar in construction to the front fork of a bicycle, which fork has an oscillatory motion at its head (see Fig. 1). The end of the hub T (see Fig. 5) ends in a vertical rod S which is provided with a head T', which acts as a piston in the cylinder V. In the upper part of the cylinder V is a member W, made of cellular rubber, in which is enclosed liquid air. (Wough!) By these means, each wheel is given a separate vertical spring motion independent of the other wheels.

Twelve claims are allowed.



SCHNEPP VEHICLE TIRE

Letters patent No. 647,118 to Hans Schnepp, Augsburg, Germany.

This tire consists of the outer tube of substantially the shape shown in the illustration, within which are two annular bands of metal, one of a diameter to hold it normally close to the inner periphery of the tread of the tire and the other lying against the rim portion of the tire. These two annular bands of metal are held in their positions by a number of bands of rubber which are fastened about them in the manner shown in the illustration. The manner of attachment of the rubber strips is varied, but their function is always the same, viz., to maintain the two annular metal bands in elastic attachment.

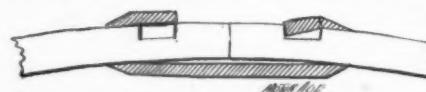
Two claims allowed.



WAECHTER'S TIRE DEVICE

Letters patent No. 647,170 to Conrad Waechter, Mount Vernon, N. Y.

This patent covers, by four strong



Waechter's Retainer.

claims, a device for holding together the ends of the retaining wires of vehicle tires of the Kelly type. The illustration

shows, in section, the two abutting ends of a wire in which each end is notched. The retaining member, which is tubular at each of its ends, is also shown in section. It is provided with two tongues, which can be bent down to enter the notches in the wire, one of them being shown so bent in the illustration. The patent is doubtless worth more than the very great majority of more complicated ones.

A PATENT WORTH NOTHING

Letters Patent 646,993 to Frank K. Irving, Newark, N. J., assignor of one-half to Andrew G. Vogt, same place.

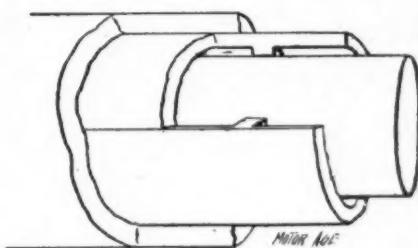
Mr. Irving may be able to construct an excellent electric vehicle, but his patent will not be of any assistance to him. It pretends to cover means for constructing a frame that is suitable for electric carriage, but the claims allowed are of such a trivial character that the patent affords absolutely no protection.

KITSON'S CELLULAR TIRE

Letters Patent No. 647,098 to Arthur Kitson, Philadelphia, Pa.

If there be merit in cushion tires, Mr. Kitson probably has a valuable patent, as his claims are rather broad and the construction that they cover is clever.

The tire consists of a cylindrical envelope enclosing another cylindrical member, which, however, is in two halves, the dividing line running at right angles to



Kitson's Cellular Tire.

the tread. This inner cylindrical member is divided by frequent transverse partitions which are provided with recesses, running at right angles to the line of separation of the two halves of the inner cylindrical member. Fitting snugly in these recesses and running the entire length of the tire is a core of oblong section. The illustration gives a good idea of the construction. The shape of the partitions in the cylindrical cellular portion holds the core in position and allows of its being compressed, with the rest of the tire, without undue distortion of too great a body of rubber.

NEWS OF THE MOTOR INDUSTRY

VISIBLE STEAM AVOIDED

Boston, Mass., April 14.—The problem of disposing of the visible exhaust steam from a steam carriage has been solved completely by Milne & Killiam of Everett. This week, by their invitation, a Motor Age representative was given an opportunity to view a carriage fitted with their device and was afforded an opportunity to watch its working up grades and at high speed. Even when the engine was driving the carriage at the rate of fifteen miles an hour up a slight grade, not the slightest evidence of the exhaust

could be seen, except the slight puff of dust thrown up from the road by the jet.

Just how this is done the builders do not care to say until a later issue of the Motor Age, when the device will be described in full. The "killing" of the steam from the exhaust is done inside two cylinders of sheet steel, about two feet high and five inches in diameter. A patent has been applied for.

The carriage, a stanhope with a hood, is driven by a four-cylinder, single acting, upright engine, which is hung from pivots in the body of the carriage to allow of chain adjustment. The boiler is of the

cylindrical, steel shell type, filled with copper tubes of $\frac{1}{2}$ -inch outside diameter and of sixteen gauge. The engine cylinders are $2\frac{1}{2}$ inches in diameter by four-inch stroke. Each pair of cranks is set at 180 degrees, while the opposite pair are at ninety degrees to the first pair. This much reduces the vibration. The cylinders themselves are of steel tubing, lined with cast iron of 1-16-inch in thickness.

The cranks and shaft work in oil baths and the engine is unusually free from vibration, the only apparent vibration when hung free in the shop being from the eccentrics. The reversing mechanism is simple in the extreme, consisting of a worm sleeve, which works upon the shaft and shifts the eccentrics, of which there are two, one for each pair of cylinders.

From the seat, the reversing is controlled by a foot lever, which is only used to run backward. When the foot is removed, a strong spring brings the eccentrics to the forward position.

A company has been formed to make and market the carriages under the title of the Oxford Automobile Company, with a Boston office at 53 State Street. Harry F. Stevens is president of the company and Messrs. Milne and Killiam directors.

A NEW BUFFALO COMPANY

Buffalo, April 16.—The E. R. Thomas Motor Co., with a capital of \$150,000, is the name of a new concern that commenced the manufacture of motor tricycles and quadricycles, as well as motor-vehicles this morning at Buffalo. The E. R. Thomas at the head of this concern is an old timer in the cycle industry. For five years he was the managing director in Canada for H. A. Lozier & Co.'s business. He was also second vice president and is still a director of the Canada Cycle & Motor Co. He has been quietly working with the object in view of establishing a plant in Buffalo for the past six months, but it was only last week that he purchased a quantity of machinery and leased part of the plant from the Globe Cycle Co. at the corner of Broadway and Elm Avenue. The patterns and drawings are all ready and the superintendent is

an old, experienced man and it is the intention to have some of the tricycles on the market by July 1. Catalogues will be ready in about thirty days and agencies will be established in about the same way as is done in the bicycle business. A popular type of engine will be used with $1\frac{3}{4}$ horsepower, but of course the power of the engine will depend largely on the style of the machine. Mr. Thomas says that he has recently applied for a patent on a new non-vibrating gasoline engine which he purposed to use in his vehicles. The Thomas people were awarded medals at the Toronto fair last fall for their motor tricycles and quadricycles and they claim to be the first to make these types of wheels on this continent. O. F. Thomas, a brother of the promoter, will also be interested in this company. He will be remembered as one of the members of the Standard Cycle Co., which located in Buffalo in the fall of 1899. The E. R. Thomas Motor Co. will not in any way interfere with the Globe Cycle Co.'s business.

COMPACT IGNITING DYNAMO

The Dayton Electrical Mfg. Co., of Dayton, Ohio, are putting on the market a compact little dynamo which is especially designed for use in automobiles and for other portable work.

The accompanying illustration shows the appearance of the dynamo. An idea



of its smallness can be gained when it is stated that the base is only $6\frac{1}{4}$ by 8 inches. It is really a cross between a magneto and a dynamo, having permanent magnet pole pieces which are kept up to

the strength of the field coils while the dynamo is running, having the advantage of picking up its load quickly without the magnets dying, as they do in the ordinary magneto.

The base of the dynamo is arranged for the reception of a sparking coil, but will be sold without the latter. The list price of the dynamo with the spark coil is \$20.

The firm also furnishes what they term a starting cabinet. This cabinet contains two forty-ampere storage cells, built especially for this work. The cabinet is designed to furnish the spark for starting gas and gasoline engines in which a dynamo is used and also to furnish a sufficient reserve power to spark the engine for some time in case of any trouble with the generator.

The switch is gotten up in a manner to give it an attractive appearance and is marked in a manner so that any intelligent person can have no difficulty with it. The switch is thrown to one side to give the spark for starting. When the engine has started and current is being obtained from the generator, a buzzer alarm sounds and the switch is reversed. At the same time the current taken from the cabinet is automatically replaced through a shunt circuit.



AMERICAN DE DION COMPANY

New York, April 13.—Kenneth A. Skinner, who controls the De Dion Bouton motors for this country, has been in this city several days promoting a company for the manufacture of the De Dion motors here for sale in the open market.

"I expect," said he to a Motor Age man today, "to complete the preliminaries for the organization of this company within the next twenty-four hours. More than sufficient capital has already been offered and it now has become a mere question of whose money we shall accept. All I can say is that the moneyed men are all New York parties."

"I expect to sail next week Saturday," he continued, "but will be absent not over six weeks. I propose to engage and bring over experienced workmen from the De Dion factory to manufacture for us here. We have not yet decided on the location of our factory. In fact our factory will

be mainly an assembling factory, as we propose to have most of our parts made on contract outside just as De Dion has them abroad.

"We will sell them in the open market to any who may wish to buy. De Dion follows this policy abroad and does not fear even to sell them to rival concerns turning out tricycles and quadricycles just as he does. Of course, we will have them for wagons also."

This advantage of manufacturing here in avoiding duty and in quick delivery will readily be seen.



THE PROPOSED TRUST AGAIN

Philadelphia, April 16.—What its projectors hope will develop into an automobile trust in all that term implies was chartered at Dover, the capital of Delaware, last Thursday, Philadelphia capitalists being largely interested in the venture. The incorporators are H. B. Twyford, of Windley, England; Ernest Martin, of New York City, and James Virden, of Dover, Del., and the capital stock of \$75,000,000 is none of it preferred—all common, divided into shares of \$100 each.

The Anglo-American Rapid Vehicle Co., the title of the new concern, will have for its president W. W. Gibbs, who is president of the Pennsylvania Electric Vehicle Co. and is also largely interested in the Auto-Truck Co. of New York. Former District Attorney George S. Graham, of this city, is believed to be one of the principals in this scheme of "benevolent assimilation," as the Evening Bulletin terms it, and "Dick" Croker and other prominent Gothamites are also understood to be "in on the ground floor." Both the gentlemen mentioned are active spirits in the affairs of the Auto-Truck Co., the former in the capacity of legal adviser.

Further than to state that the new company "is designed to unite the various vehicle interests," Mr. Gibbs refused to talk, adding that "it is too early to discuss matters of detail." There have been rumors afloat for some time that a big company was forming to establish auto-bus lines on Broad street and out the Lancaster pike, but neither Mr. Gibbs

nor Mr. Graham appeared to know anything about such a company.

Among the numerous other corporations chartered at the Diamond state capital during the past week were the Crescent Automobile Mfg. Co., a New York concern with a capital stock of \$500,000, which will manufacture a special patent on motor vehicles, and the Reuter Automobile Co. of Chicago, capitalized also at \$500,000, and which will "manufacture, sell and deal in all kinds of automobiles and horseless carriages."

The Anglo-American Rapid Vehicle Co. has been mentioned in previous issues of the Motor Age, as the company which Pennington and Lawson of fame in the promoting line in England, were instrumental in floating. No danger of any trust, in the broad sense of the term, covering the automobile industry need be apprehended.—Ed.

THE LOCORACER

Worcester, Mass., April 14.—The Locomobile Co. of America has completed, in its Westboro shop, a new pattern of steam carriage which has been named the "Locoracer." The carriage was designed by T. F. Ahearn for speed work. It is similar in pattern to the regulation locomobile, but is lighter and has a three-quarters seat. Over rough roads this week the machine covered the distance from Westboro to Worcester city hall, fourteen miles, in thirty-seven minutes.

NOT TO BE ABSORBED

Boston, Mass., April 14.—Statements emanating from New York that the New England Electric Vehicle & Transportation Co. of this city will be absorbed by the Electric Vehicle & Transit Co., which will operate a line of automobiles in Fifth Avenue, New York, are said to be erroneous at the office of the New England

company. The latter is said to be having a prosperous business.

ELGIN COMPANY ENLARGES

The Elgin Automobile Co. have increased their capital stock from \$100,000 to \$500,000. This step is due to the immense demand for their vehicles. The new stock, it was learned from the management, has been subscribed by eastern capitalists. The offices will remain in Chicago and the factory at Elgin.

Orders have been pouring in so fast that the company is far behind in filling them. With the increased capital, however, the plant will be greatly enlarged and it is expected that a capacity of six vehicles per day will be reached in the near future.

NEW CORPORATIONS

The Crescent Automobile Mfg. Co.—a New York concern—under the laws of New Jersey, with an authorized capital of \$500,000.

The Reuter Automobile Co.—a Chicago concern—under the laws of New Jersey, with an authorized capital of \$500,000.

The E. R. Thomas Motor Co., of Buffalo, N. Y., with an authorized capital of \$150,000.

The Clapp Motor Carriage Co., under the laws of New Jersey, with an authorized capital of \$600,000.

The Crescent Automobile Mfg. Co., of New York, under the laws of New Jersey, with an authorized capital of \$500,000.

The Thomas Mfg. Co. of Springfield, Ohio, are experimenting on motor-vehicles and will go into the business as soon as they are through their experiments. They have a vehicle nearing completion at the present time and hope that it will be satisfactory in all respects.

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MOTOR RACING AND MOTOR PACING

SKINNER AND RIDGWAY MATCHED

New York, April 13.—Kenneth Skinner, of Boston, Mass., and Charles G. Wridgway, of London, Eng., the racing mototricyclists, met at the N. C. A. office today in conference with Chairman Batchelder and the Motor Age correspondent and soon came to a sportsmanlike agreement to an hour race for \$150 a side at Woodside Park, Philadelphia, on Friday or Saturday afternoon of next week, dependent on whether Skinner would be obliged to sail on that Saturday.

Skinner opened the discussion by saying he had read in the Paris edition of the New York Herald that Wridgway had issued a challenge to any American to race and that he did not want any foreigner to go home disappointed.

Wridgway replied that it was Jarrott and not he who had issued the challenge, but that he had merely accepted Arthur Bunker's challenge.

"If you want a race, I'll race you," said the Yankee.

"I do, and I'll go you," responded the plucky Briton.

"The next question, I suppose, is for how much?" suggested Skinner, with a smile. "Make it a hundred and fifty."

"That's agreeable," said Mr. Wridgway.

Out came a crisp century from Wridgway's pocket and out came Skinner's checkbook and soon these guarantees of real business lay on Mr. Batchelder's desk.

Then they began to talk business in earnest. The idea of a race on the road was soon dismissed through the danger of interference by the authorities. Skinner thought some big trotting track would be a good place. Wridgway wanted a bicycle track, and Skinner soon yielded this point, as at this season of the year a trotting track could not be made fit on such short notice. Wridgway thought Berkeley Oval would do. Skinner thought it too small and that it would be against his inexperience at track racing since Wridg-

way said he had ridden over a fourteen-lap track. It was too early for Manhattan Beach and the turns there were not banked enough, so they accepted "Batch's" suggestion of Woodside Park, a third of a mile, well banked circuit.

"Any distance will suit me," said the American, "fifty or a hundred."

"Suppose we make it an hour," said the Briton.

"Good," chimed in the Bostonian.

The question of start provoked a lengthy argument. Wridgway said it ought to be standing, as he said such matches were run abroad. Skinner feared accidents and thought it should be flying. The Motor Age man's suggestion that a slow flying start from the head of the stretch only would get them both off on equal terms and insure the public against a fizzle or failure to make carburetting connection at the start was finally accepted.

Up to this time nothing had been thought of for stakes beyond the money put up by each. It was pointed out, however, that the track would have to be paid for on a percentage basis, so that there would be gate money to divide. It was quickly agreed that two-thirds should go to the winner and one-third to the loser.

All the preliminaries having been settled, the following articles of agreement were drawn up and signed:

We, the undersigned, Charles G. Wridgway of London, England, and Kenneth Skinner of Boston, Mass., agree to compete in a motor tricycle race of one hour's duration on Woodside Park bicycle track, Philadelphia, Pa., N. C. A. rules governing, except that a machine must be at least two full lengths in advance of the other before crossing to the poles; date of race to be Friday, April 20, or Saturday, April 21, at 3 p. m.; style of start to be flying at a speed of not more than eight miles an hour; choice of pole to be decided by toss of a coin.

Race will be for \$150 a side, and such percentage of the gate receipts as may be decided upon with the track managers, same to be divided two-thirds to winner and one-

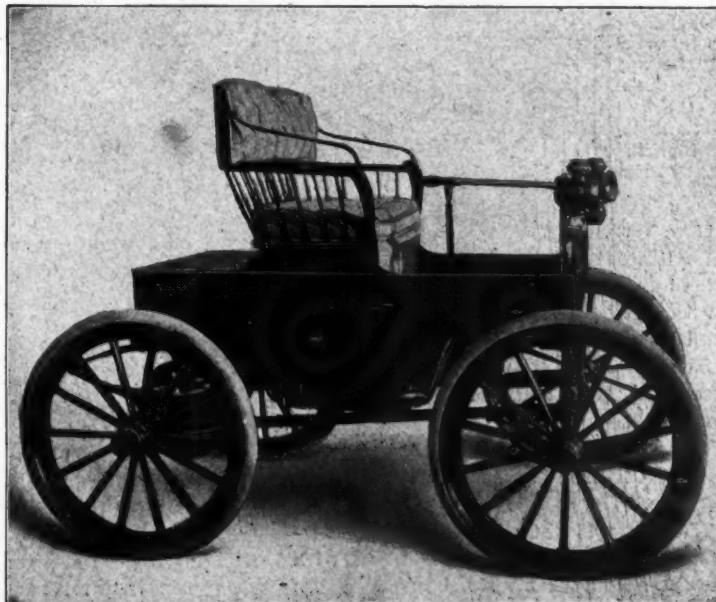
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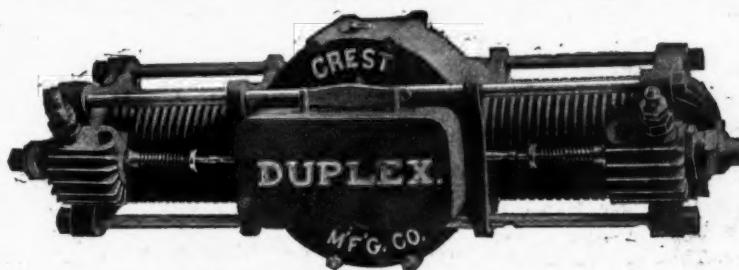
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cooled, electric igni-
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no 'seizes.'

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U. S. A.

third to loser. Each contestant agrees to deposit all of his stake money on or before April 17, 1900, with A. G. Batchelder, who will immediately forward same to the referee of the race, Frank A. Tucker, of Philadelphia.

In case either contestant fails to appear at the appointed place at the appointed time, such contestant agrees to forfeit \$50 of the stake money deposited to the contestant appearing.

Signed,

Principals:

C. G. WRIDGWAY.
KENNETH SKINNER.

New York, April 13, 1900.

So it was that the first motor tricycle match ever run in this country was made on the day before the first automobile road race in America was to be run.

Skinner holds the Boston-New York record, having made the distance on his De Dion tricycle in seventeen hours for the 251 miles. He will ride a De Dion tricycle of three horsepower in the coming race.

Wridgway is one of the crack motocyclists of England, dividing honors with Jarrott. He says his Ariel motor is but two horsepower.

The English track record is forty-one miles and the French track record forty-three miles for the hour.

Wridgway has made the mile on the Berkeley Oval 3½-lap track in 1:35 in practice. He is experienced in track racing and will have in this respect great advantage over the American in rounding the sharp curves at top notch speed, as Skinner has devoted his attention solely to road racing. The match has already been much discussed and will be the forerunner doubtless of many more such contests between riders and makers before the season closes.

Fred Voigt, of Manhattan Beach and Vailsburg, came in later and agreed to manage the match.

FATAL ENDING OF RACE

Paris, March 7.—The last day of the week at Nice was clouded by the death of the unfortunate chauffeur, Bauer. He died the morning of March 31 at 4 o'clock without ever recovering consciousness. It was the result of a terrible fall on the course of La Turbie. This, combined with the weather and the rigorous attitude of

the committee of organization, has served to make rather an unsatisfactory week of it. The mile course might have been exciting, as it was it was painfully interesting. Many of the principals, Charron, Girardot and De Kynff, did not compete. Levegh was the only one to run in the voiture class. His time was 1:32 4-5 for the mile.

Beconnais, however, from a standing start accomplished the mile in 1:18, which lowers the record of Gaste by 5 seconds.

In the voiturette class Van Berendouck made the course in 2:00 3-5, beating Tart by 1 second. It is to be noted that these two alone covered the course with two persons in their carriages.

The prize for classed voitures—Beconnais was not classed—was won by Meaulne in 1:50 4-5.

The class of steam and electric voitures went to Serpollet, who engineered a steam vehicle. His time for the mile was 2:00 4-5. The track was in good condition and almost in a straight line.

In the Esterel race Beconnais came away triumphant. This course has been the terror of local chauffeurs and Beconnais covered the 13 kilometers 600 meters in 14:44, which is 55 kilometers to the hour. This is wonderful time, considering the nature of the course.

Behind Beconnais and Levegh came Baras with his two cylinders and Gaste, all of them making fast time.

Beconnais ran these last two races in his motorcycle with single cylinder, bore 86 millimeters, stroke 110, teeth of great pinion, nine-eight, small pinion, in the mile, twenty-six teeth, in the Esterel run two-four teeth.

The body of Bauer will be taken to Carlsbad, his native city.

Harry Elkes says that the track in Paris has small holes bored in it until it looks like a sieve. A tire blown hard does not touch so much space. This is supposed to add speed.

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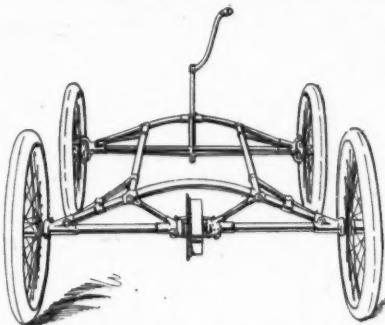
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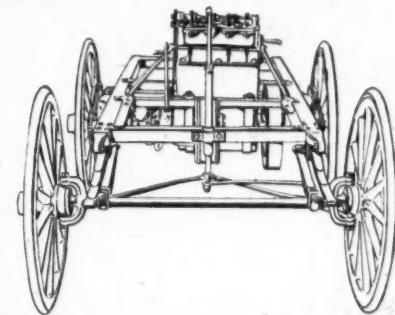
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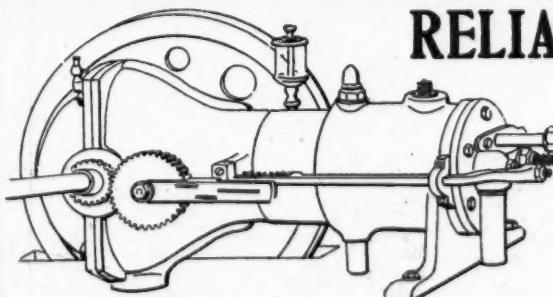
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